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Measurement of Ξ_c^0 in pp collisions at 13 TeV as a function of multiplicity and in p-Pb collisions at 5.02 TeV with ALICE

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Recent results of charmed baryon production in pp collisions showed significant enhancement of baryon-to-meson ratio compared with the predictions from e^+e^- collisions due to the modification of the charm fragmentation fractions and possible coalescence mechanism at play. Therefore, the measurements of charmed baryon production are crucial to investigate the hadronisation mechanism of charm quarks.

In pp collisions, further study on the multiplicity dependence of the baryon-to-meson yield ratios can provide information on how the charm hadronisation process evolves. Measurements in protonnucleus collisions are important to separate the cold nuclear matter effect from the effects associated with the formation of quark-gluon plasma.

In this study, we report the analysis status on the Ξ_c^0 measurements at midrapidity via the semileptonic decay channel $\Xi_c^0 \rightarrow \Xi^- e^+ \nu_e$ (and charge conjugates), especially the multiplicity dependence in pp collisions at $\sqrt{s} = 13$ TeV and Ξ_c^0 production in p-Pb collisions at $\sqrt{s_{NN}} = 5.02$ TeV. In addition, the recent results of Ξ_c^0 in pp collisions at $\sqrt{s} = 13$ TeV will be shown.

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